B-CELL SURFACE REACTIVE ANTIBODIES FOR THE TREATMENT OF B-CELL CHRONIC LYMPHOCYTIC LEUKEMIA

SUMMARY

Available for licensing from the National Cancer Institute are fully human monoclonal antibodies that were selected from the first human post-alloHSCT antibody library. The library was generated from a time point after transplantation at which antibodies to B-CLL cell surface antigens peaked, thus indicating its therapeutic value.

REFERENCE NUMBER

E-163-2009

PRODUCT TYPE

- Therapeutics

KEYWORDS

- B-cell, lymphocytic, leukemia, alloHSCST

COLLABORATION OPPORTUNITY

This invention is available for licensing.

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DESCRIPTION OF TECHNOLOGY

B-cell chronic lymphocytic leukemia (B-CLL) is a cancer characterized by a progressive accumulation of functionally incompetent lymphocytes. Despite high morbidity and mortality, the only available potential cure is allogeneic hematopoietic stem cell transplantation (alloHSCST). However, there is less than a 50% chance of finding a matching bone marrow or blood donor for B-CLL patients. Other clinically tested targeted therapies such as rituximab and alemtuzumab target both malignant and normal B cells, resulting in immunosuppression.

Available for licensing are fully human monoclonal antibodies that were selected from the first human post-alloHSCT antibody library. The library was generated from a time point after transplantation at which antibodies to B-CLL cell surface antigens peaked, thus indicating its therapeutic value. Utilizing

phage display, the investigators generated a panel of fully human monoclonal antibodies that strongly bind to the same epitope on a B-CLL cell surface antigen. Weaker binding to normal B cells, but not to other lymphocytes, was observed. These fully human monoclonal antibodies provide readily available treatment that selectively targets malignant B cells.

POTENTIAL COMMERCIAL APPLICATIONS

- B-cell chronic lymphocytic leukemia therapeutics
- Method to inhibit the growth of malignant B-cells
- Method to detect B-cell tumors

COMPETITIVE ADVANTAGES

- Selective targeting of malignant B-cell surface antigens that are minimally non-damaging to non-diseased cells
- Readily available therapeutics without the need for bone marrow or blood transplantation

INVENTOR(S)

Christoph Rader (Scripps Institute, formerly NCI)

DEVELOPMENT STAGE

- Pre-clinical (in vivo)

PUBLICATIONS

S Baskar, et al. A human monoclonal antibody drug and target discovery platform for B-cell chronic lymphocytic leukemia based on allogeneic hematopoietic stem cell transplantation and phage display. Blood, Epub, 2009 Aug 10.

PATENT STATUS

- **U.S. Provisional:** U.S. Provisional Application No. 61/178,688 filed 15 May 2009

THERAPEUTIC AREA

- Cancer/Neoplasm